Business methods on the whole are improving and the alert manufacturer recognizes that continued success depends upon quality rather than upon outside appearances. In such cases the old adage, "Caveat Emptor"—let the buyer beware—has no foundation. The manufacturer recognizes his responsibility and accepts it. The consumer, however, has no way of telling what products are properly prepared and what are not. He is dependent upon his retailer, who with the best intentions may be misled. Trade marks and firm names go for a great deal with the retailer as well as with the consumer.

The consumer desiring the better product has no criterion for selection. The producer of wholesome products is deserving of separation from the unscrupulous. In order to identify those institutions making adequate provisions for the protection of the consumer and the people in the employ of such institutions, a private laboratory conducted by recognized sanitarians and hygienists proposes to award a "Sanitary Label" as a token of reliability. To obtain the award of this label the applicant for its use must make initial conformity with appropriate standards, and thereafter continuously maintain these provisions together with the additions, which developments in sanitation make desirable. It is suggested that an impartial council from the Fellows of the AMERICAN PUBLIC HEALTH ASSOCIATION and others serve as advisors in the creation of appropriate standards for the conduct of such certifying laboratories as well as for the meticulous "standards" which will be found necessary for varied procedures, and serve as arbitrators in matters of dispute. The details of frequent inspection of institutions and the securing of adherence to imposed provisions will fall upon the private laboratory undertaking the responsibilities of certification. The label, when awarded (and so long as merited), may then be used by the manufacturer in advertisements. Without restrictions, this label should be available to any firm or incorporation meriting its use, and not become the exclusive privilege of one alone against a competitive field.

We are inclined to believe that a field exists for such an enterprise. Its success will depend upon the rigidity with which standards are created and maintained. Basically, the question is one of the encouragement of private capital and expert services in the promotion of much needed health measures in many lines of business.

SMALLPOX AND CLIMATE

THE DEVELOPMENT of bacteriology revolutionized our ideas concerning disease. Not only has it changed our entire conception of the practice of medicine but our epidemiological ideas had to be entirely remade. We have probably neglected some methods of value which the older physicians made use of and it is probable that we have discarded some ideas which were useful. Certainly our studies have narrowed in their scope.

Among the influences which we have been inclined to neglect is climate, or at least certain aspects of climate, and season. It is true that many effects which were formerly attributed to season are more readily, and more accurately, explained than they were by the older ideas, but there still remain certain factors which cannot be overlooked and the explanation for which is not clear. No satisfactory explanation has been given of the pandemics of influenza, for example, though there is certainly some factor or factors involved other than those which are evident.

A most interesting study has just come from the Medical Research Council of England.[1] India has a well defined rainy season from the middle of June to the early part of October, followed by four months of dry, cold weather and then by four hot, dry months. Marked variations occur in the rainfall, temperature and humidity in different areas, the whole affording an excellent field for epidemiological studies in a tropical climate. Excellent records have been kept for more than fifty years and it is these records which Sir Leonard Rogers has made use of in his work. He has shown that there is a close relationship between high rainfall and the prevalence of leprosy; between moist monsoon currents, apart from the actual amount of rainfall, and the phthisis rates; between great diurnal variations of temperature, combined with a low minimum and a dry atmosphere, and pneumonia. The present study is devoted to the relation of smallpox epidemics to the variations of the climate in India, and it has further developed the thesis that outbreaks of smallpox can be foretold two or three months ahead, a matter of great importance, since it enables the health authorities to organize for additional vaccination and to prepare in other ways for the expected outbreak.

The facts upon which he bases these conclusions are of great interest. Madras shows the greatest and most uniform incidence of smallpox, and is the only province which does not receive much rain during the southwest monsoon months. In all of the seven provinces which receive heavy rains at that period, there is a remarkable decline in smallpox every year at that period, followed by an increase during the succeeding cold and hot, dry seasons. The next monsoon brings about again a decline but in Madras this decline is not observed. The great incidence of smallpox occurs there after the heavy rains of November and December.

The greatest epidemics occur in Northwest India, the Central India and Deccan plateau, where there is a low rainfall, and outbreaks are least marked in humid Bengal which has a consistently high rainfall. The failure of the southwest monsoon rains, with accompanying comparatively low humidity, is almost invariably followed by epidemics in the Northwest and Central areas. In the damp areas of Lower Bengal, Assam and Madras, there is no apparent relation of smallpox to either the monthly temperature or relative humidity. The absolute humidity (the amount of aqueous vapor measured by its pressure, a convenient measure of combined humidity and temperature) shows a close relation to the prevalence of smallpox. This absolute humidity reaches its maximum with the annual decline of smallpox during the southwest monsoon in every province which receives its main rain at that time. In Madras both the absolute humidity and the smallpox rate are stationary at that season in the absence of the southwest monsoon. The maximum absolute humidity occurs in April and May and is accompanied by the annual moderate decline of smallpox. The influence of high absolute humidity in checking smallpox explains the seasonal prevalence in all parts of India with their varying rainfalls and temperatures. The rainfall alone does not explain the great lessening in smallpox during the southwest monsoon.

The records of the Indian jails for thirty years show a very close relationship between humidity and smallpox for the whole of North and Central India, the relation being inverse.

An examination of the yearly variations of smallpox mortality as compared with the rainfall records covering forty-eight years, and of the absolute humidity for thirty years, and of the smallpox rates and the absolute humidity during the monsoon and autumn for thirty years, confirms these general findings with slight exceptions. In the less rainy areas of Northwest and Central India, low absolute humidity during the monsoon is almost always followed by a high

smallpox incidence during the dry seasons. One exception is that low humidity seen after an epidemic which has exhausted most of the susceptible material may not show the usual increase, while several consecutive years of normal or high absolute humidity may be followed by a rise, owing to the accumulation of susceptible persons.

The manner in which high absolute humidity reduces smallpox is a matter of interesting speculation. The germ of smallpox is unknown, but the recent work of Gordon[2] has apparently demonstrated that the virus is particulate and can be thrown down by gravity. Just how the prevalence of humid winds combined with high temperature prevents the survival and dissemination of the germs is not known. Sir Leonard Rogers is inclined to believe that in some way they act upon the organism after it escapes from the patient and during its passage to the next victim. This belief presupposes that the infection is aerial, which has been held by many over a long period of time. There is abundant food for thought in this study, and the methods employed may eventually greatly influence epidemiological researches.

1. *Smallpox and Climate in India, Forecasting of Epidemics.* By Sir Leonard Rogers, London: Published by His Majesty's Stationery Office.
2. *Medical Research Council, Special Report Series No. 98.*

VICTOR CLARENCE VAUGHAN

THE TWENTY-SEVENTH of October will be the seventy-fifth anniversary of the birth of Dr. Victor C. Vaughan, and it is no more than fitting that this JOURNAL should pay a tribute to a man who throughout his entire professional life has been an exponent of public health, who has been a pioneer in many lines and who has added much to our knowledge.

Dr. Vaughan was born at Mt. Airy, Randolph County, Missouri. His preliminary education was obtained at Mt. Pleasant College, Mo. From the University of Michigan, he received four successive degrees: M.S. in 1875, Ph.D. in 1876, M.D. in 1878 and LL.D. in 1900. He began his teaching career in the University of Michigan as assistant in the chemistry laboratory in 1875, and was appointed assistant professor of medical chemistry in 1880. He became professor of physiological and pathological chemistry and associate professor in therapeutics and materia medica in 1883. In 1887 he was made professor of hygiene and physiological chemistry and director of the hygienic laboratory, in 1891 became Dean of the Medical School, a position which he held until 1921.

He entered the U. S. Army in 1898, taking part in the Santiago campaign as Major and Surgeon of the 33d Michigan Volunteers, later becoming Division Surgeon. In 1917 he was appointed Colonel in the Medical Corps of the army and put in charge of the Division of Communicable Diseases.

Dr. Vaughan has held many positions of honor, and has been President of the Association of American Physicians and of the American Medical Association. He is a member of numerous societies, including the National Academy of Sciences and the American Philosophical Society in this country, and the French and Hungarian Societies of Hygiene in foreign countries. He is also a Knight in the Legion of Honor of France.

While Dr. Vaughan has made notable contributions along many lines, he is